

Missouri Department of Transportation Springfield Regional ITS Architecture Update

Prepared for:
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Missouri Department of Transportation
Traffic Division

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Project / System Deployment Inventory



DISTRICT - 8

Version 1.0
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TRANSCORE

**Missouri Department of Transportation
Springfield Regional ITS Architecture Update**

“Project / System Deployment Inventory”

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Document Revision History

Date	Version	Description
5-25-2010	1.0	Initial document release
7-19-2010	1.0	Do changes noted, final release



Overview

The following document is meant to inventory the varied sources of information, concerning the ITS activities being undertaken by the different agencies associated with the Springfield region. The inventory is used as a point of reference and highlights past, current, and future ITS efforts. This information assists in the development of understanding how data and information is and will be shared and integrated between regional partners. The inventory presented is meant as an overview and documents the different resources available to the team during the development of the update architecture.

The document also provides a roadmap illustrating how the regional ITS architectures is updated. The roadmap illustrates how work typically progresses through the various stages to produce the final project with the current available funds. Each step in the roadmap is explained in a way to simplify the process and encourage discussion.

1 Information Sources

Information sources were limited for the project team. Efforts were made to uncover planning documents, design reports, and previous projects identified as part of the last architecture update that would provide a greater understanding of the region's ITS efforts. The few sources of information that were available and inventoried by the team are listed below.

1.1 Document Inventory

The project team currently has the following documents its possession or is working actively to acquire them:

- Springfield Regional ITS Architecture; Nov 2003
- Missouri Advance Planning- Missouri Long Range Transportation Plan
- 2009-2013 Statewide Transportation Improvement Program

1.2 Digital Inventory

The project team currently has the following digital files in its possession:

- District 8: Springfield Region ITS Architecture, Turbo Version 2.0
- MoDOT Statewide ITS Architecture, Turbo Version 4.0

1.3 Web Inventory

The following websites are seen as being of potential use during the course of the project:

- Missouri Department of Transportation: <http://www.modot.org/>
- Ozark Transportation Organization (OTO): <http://www.ozarkstransportation.org/>
- City of Springfield: <http://www.springfieldmo.gov>
- City Utilities of Springfield: <http://www.cityutilities.net/transit/transit.htm>
- Missouri State University – Transit: <http://www.missouristate.edu/campuservices/transportation>
- City of Ozark: www.ozarkmissouri.com

2 Ongoing ITS Programs and Projects

During the initial stakeholder review process a few limited programs and projects were uncovered that will be updated in the regional architecture. The initial feedback from agencies was limited, however, lead contacts were established and additional information on these activities can be further explored. The following is a brief summary of the agencies that have undertaken ITS deployments since the last architecture update, are currently installing, or plan to initiate a project within the next five years.



2.1 Missouri State University – Transit

Missouri State University, Transit Department has deployed GPS on campus shuttle services. The deployment was installed in early 2010.

Market Packages (to be verified)

- APTS01-Transit Vehicle Tracking
- APTS06-Transit Fleet Management
- APTS03-Demand Response Transit Operations

Architecture Elements (to be verified)

- Missouri State University_center
- Missouri State University_vehicle

2.2 CityView

CityView is an agency that exists to promote traveler information within the region. Currently that have deployed and are broadcasting traffic images and CAD data to local cable.

Market Packages (to be verified)

- ATMS06-Traffic Information Dissemination
- ATMS01-Network Surveillance
- ATMS07-Regional Traffic Management
- ATMS08-Traffic Incident Management System

Architecture Elements (to be verified)

- CityView_center
- CityView_roadside
- Local Media_terminator
- Greene County_center
- Springfield Police_center

2.3 City of Ozark

The City of Ozark is planning signal improvement projects that should be deployed with the next five years. Although initial plans will not see the signals interconnected, there is interest in seeing it happen in the future.

Market Packages (to be verified)

- ATMS03-Surface Street Control

Architecture Elements (to be verified)

- City of Ozark_center
- City of Ozark_roadside

2.4 City Utilities of Springfield - Transit

City Utilities of Springfield – Transit, recently completed installation of GPS. There are plans to use this system to support deployment of an automated voice announcement system within the next five years. Also under development with Google is a route planning web-based application, meant to assist riders with planning the most efficient route for their trip.

Market Packages (to be verified)

- APTS01-Transit Vehicle Tracking
- APTS06-Transit Fleet Management
- APTS03-Demand Response Transit Operations
- APTS08-Transit Traveler Information

- ATIS02-Interactive Traveler Information

Architecture Elements (to be verified)

- City Utilities of Springfield - Transit_center
- City Utilities of Springfield - Transit_vehicle
- Local Passenger

2.5 Missouri Department of Transportation

Missouri Department of Transportation has several programs and projects that may require updates to the regional architecture. Current activities include the following:

- Regional traffic signal control system
- Roadside assistance program
- Existing roadside CCTV and Signs

Planned or future ITS activities include the following:

- Expand ITS field devices, including detection, incident verification, and motorist notification equipment
- Expanded communication network, regional traffic management with City of Springfield
- Expanded communication network, regional traffic management with City of Nixa
- Expanded communication network, regional traffic management with City of Republic
- Expanded communication network, regional traffic management with City of Ozark
- Expanded communication network, regional traffic management with City of Branson

Market Packages (to be verified)

- ATMS01-Network Surveillance
- ATMS02-Traffic Probe Surveillance
- ATMS03-Surface Street Control
- ATMS04-Freeway Control
- ATMS06-Traffic Information Dissemination
- ATMS07-Regional Traffic Management
- ATMS08-Traffic Incident Management System
- EM04-Roadway Service Patrols
- EM06-Wide-Area Alert

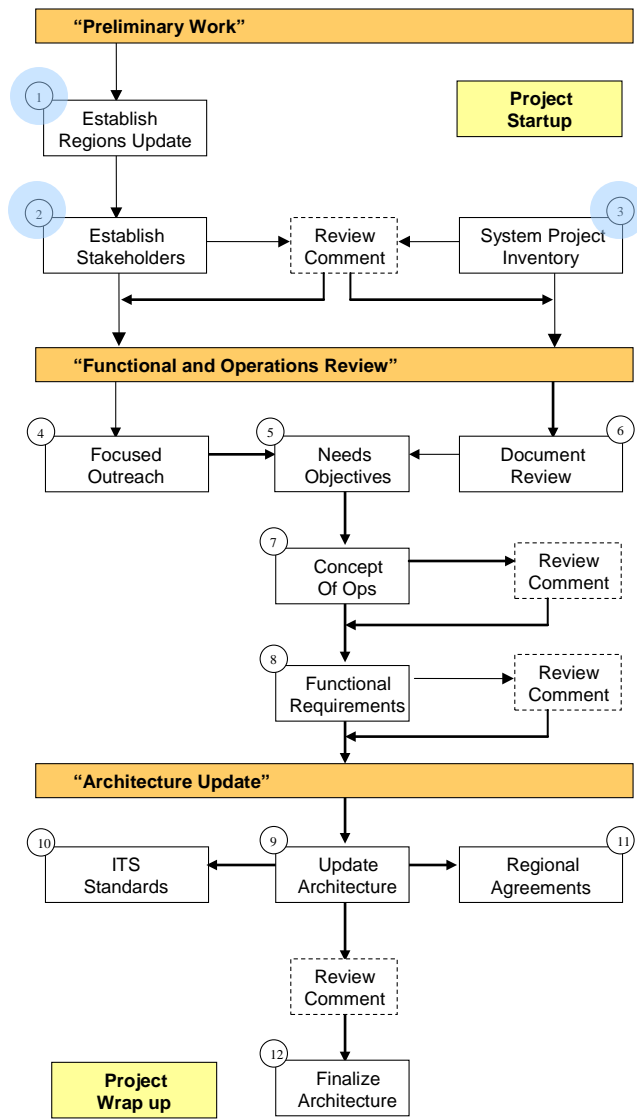
Architecture Elements (to be verified)

- MoDOT-Traffic_center
- MoDOT-Traffic_roadside
- MoDOT-Traffic_vehicles
- City of Nixa_center
- City of Republic_center
- City of Ozark_center
- City of Branson_center

3 Architecture Roadmap

The following diagram highlights steps currently underway to update the current regional architecture. The process provided is typically used to advantage of existing informational resources and to move quickly from preliminary work to final completion. It should be understood that each larger step may include one or more smaller tasks, however, this majority of the work is displayed. Areas in the roadmap currently marked with **BLUE** are seen as in progress or ongoing at the time of this report.

ITS Architecture Update Workflow



3.1 Steps Defined:

1-Working with MoDOT District 8 the scope and size of the architecture update is determined. MoDOT District 8 will be an active partner in the architecture update process and will perform several tasks, related to the update in-house.

2-Using existing architectures and feedback from MoDOT and other representatives a list of the stakeholders seen as vital to the region is established. Information on each stakeholder and their current and future needs and projects are critical to accurately capturing future data sharing efforts.

3-Additional sources of information are gathered to assist with the updating process. These sources of information will come from past reports, project documents, programs, digital files, and web based media. The information collected provides a greater overall picture of the current and future ITS efforts for each region.

4-If a stakeholder is seen as having or is planning an ITS deployment within the next 5 years an effort will be to do a focused outreach effort with that agency. This effort ensures a chance that the goals and objectives of that agency are reflected in the updated architecture.

5-Based on outreach and existing documents collected user services will be establish along with the most appropriate market packages needed to address the needs and objectives of the region's stakeholders.

6- Documents collected on projects, programs, as well as long range plans are reviewed to help develop a better picture of the ITS efforts being undertaken the region.

7- An operational concept for the region is developed to establish a high level understanding of how the different stakeholders fill specific functions that have an impact on one another's operational activities.

8-Taking the operational concept to a more detailed level the functional requirements will attempt to establish more precise roles that each stakeholder provides within the region.

9-At this point information collected, reviewed, and documented is utilized in the update of the regional ITS architecture. The previous steps helped to provide a better picture of the activities, agencies, and objectives that go into developing the updated Turbo and base architecture files.

10-After a review process, followed by a period of time to incorporate comments, the final regional ITS architecture is completed.